Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Amend claims 1-5 and 8-11 as shown below:

1. (currently amended) A ~~relatively low cost, high toughness, high strength~~ deep hardening Cu/Ni/Cr alloy steel for reducing the cost of high toughness, high strength steels ~~suitable for manufacturing a wide range of articles requiring high strength and toughness~~, by eliminating the use of the scarce high cost alloying elements cobalt, nickel and molybdenum comprising by weight: about 0.40-1.0% copper; about 0.80-3.5% of chromium; about 2.5-8.0% nickel; about 0.55-1.50% of silicon; about 0.15-1.50% manganese; at least one of the transitional elements, vanadium in about 0.10-1.00% by weight and titanium in about 0.10-0.65% by weight; and the remainder iron, carbon and incidental impurities.

2. (currently amended) A ~~relatively low cost, high toughness, high strength~~ deep hardening Cu/Ni/Cr alloy steel for reducing the cost of high toughness, high strength steels ~~suitable for manufacturing a wide range of articles requiring high strength and toughness~~ by eliminating the use of use of the scarce high cost alloying elements cobalt, nickel and molybdenum comprising about ~~0.50-0.70%~~ 0.40-0.65% by weight of copper; about

0.75-1.50% by weight of silicon, said copper and said silicon being present in a Si to Cu weight ratio of about ~~1.0-2.5~~ 1.2-2.5%; about ~~0.80-2.20~~ 1.50-3.50% by weight of chromium; about 1.0 -6.0% by weight of nickel; about 0.35-0.50% by weight of carbon before and after deep hardening; about ~~0.65-1.20%~~ 0.50 -1.50% by weight of manganese; at least one of the transitional elements, vanadium in about 0.10-1.00% by weight and titanium in about 0.10 -0.65% by weight; and the remainder iron and incidental impurities.

3. (currently amended) A ~~relatively low cost high toughness, high strength~~ deep hardening Cu/Ni/Cr alloy steel for reducing the cost of high toughness, high strength steels by eliminating the use of use of the scarce high cost alloying elements cobalt, nickel and molybdenum comprising by weight about 0.4 to 1.0% Cu, about ~~1.0~~ 2.5 to 8.0% of Ni, about 0.8 to 3.5% Cr, about ~~0.55~~ .50 to 1.5% Si, at least one of the transitional elements, vanadium in about 0.10-1.00% by weight and titanium in about 0.10 - 0.65% by weight and characterized by the presence of retained austenite after quenching from an austenitizing temperature, said steel having a microstructure comprised of a major phase of lath martensite enveloped by a minor phase of retained austenite.

4. (currently amended) The steel recited in claim 3 wherein said medium carbon Cu/Ni/Cr steel comprises by weight about 0.35 to ~~0.55%~~ .50% C and about ~~0.65 to 1.20%~~ 0.50-1.50% Mn.

5. (currently amended) A low cost rolled or forged article ~~of relatively low cost,~~ high toughness, high strength Cu/Ni/Cr alloy deep hardening steel having after quenching and tempering an HRC hardness of at least 50 a yield strength of at least 200 ksi and an impact strength value KcV of at least 28 ft-lb, ~~comprising~~ consisting essentially of by weight ~~percent~~: about 0.50-0.70% of copper; about 0.80-3.50% of chromium; about 2.0 - 8.0% nickel; about 0.35-0.50% carbon; about 0.75-1.50% silicon; about 0.65-1.20% manganese; at least one transitional element; and the remainder iron and incidental impurities.

6. (original) The article recited in claim 5 wherein said transitional element by weight is about 0.10-1.00% vanadium.

7. (original) The article recited in claim 5 wherein said transitional element by weight is about 0.10 - 0.65% titanium.

8. (currently amended) A ~~An article of relatively~~ low cost, high toughness, high strength deep hardening Cu/Ni/Cr alloy steel consisting by weight ~~percent~~ essentially of: 0.22-0.32% carbon, ~~about 0.40-1.0%~~ less than .65% copper; about 0.80-1.5% of chromium; about 1.0- 3.5% nickel; about ~~0.75~~- .50 -1.00% silicon; about ~~0.65~~ .50 -1.00% manganese; at least one from a group of transitional elements: about 0.10-0.50% of

vanadium, 0.10-0.35% titanium; and the remainder iron and incidental impurities including less than 0.45% sulfur and less than 0.25% phosphorous, and having high core strength and toughness after carburizing.

9. (currently amended) An article manufactured from a ~~of relatively~~ low cost, high toughness, high strength Cu/Ni/Cr alloy steel without the scarce high cost alloying elements cobalt, nickel and molybdenum consisting by weight ~~percent~~ essentially of: about 0.32-0.55% carbon, about ~~0.75~~ .50-1.00% of silicon; about 0.40-1.0% copper; about 0.80-3.5% of chromium; about 1.0-3.5% nickel; about ~~0.65~~ .50 -1.00% manganese; at least one from ~~a~~ the group of elements: ~~about~~ 0.10-1.0% of vanadium, 0.10-0.65% titanium; and the remainder iron~~, carbon~~ and incidental impurities and having after nitriding an exceptionally deep and hard outer case and high core strength and toughness.

10. (currently amended) A rolled or forged article made from a ~~relatively~~ low cost high toughness, high strength, Cu/Ni/Cr deep hardening alloy steel without the scarce high cost alloying elements cobalt, nickel and molybdenum consisting essentially ~~comprising~~ by weight of about 0.4 to 1.0% Cu, about 2.0 to 8.0% of Ni, about 0.8 to 3.5% Cr, about ~~0.55~~ .50 to 1.5% Si, at least one from a group of transitional elements: about 0.10 - ~~0.50%~~ 1.0% of vanadium, 0.10-~~0.35%~~ 0.65% titanium, the remainder iron and incidental impurities and characterized by the presence of retained austenite after quenching from an

austenitizing temperature, said steel having a microstructure comprised of a major phase of lath martensite enveloped by a minor phase of retained austenite and a hardness of at least HRC 50, a yield strength of at least about 200 ksi and a Charpy impact value KcV of about at least 28 ft-lb.

11. (currently amended) A method for producing a ~~relatively~~ low cost, high toughness, high strength Cu/Ni/Cr alloy steel ~~comprising~~ with an HRC hardness of at least 50, a yield strength of at least 200 ksi and an impact strength value KcV of at least 28 ft-lb without the scarce high cost alloying elements cobalt, nickel and molybdenum consisting essentially of the steps of: adding to ~~said steel in a molten state~~ molten iron, by weight ~~about~~ 0.4-1.0% ~~weight~~ copper and ~~about~~ ~~0.55~~ 0.50 -1.5% silicon wherein the ratio of Si to Cu is ~~approximately~~ within ~~the~~ a range of ~~1.0~~ 1.2 -2.5%; selecting desired levels of yield strength and toughness; adding ~~in said molten state~~ an amount of Ni within a range ~~by weight~~ of about 1.0 to 8.0% for meeting said desired levels of yield strength and toughness; selecting desired levels of hardness and ultimate strength; adding in said molten state an amount of carbon within a range by weight of about 0.22 to 0.55% for meeting said selected levels of hardness and ultimate strength; adding in said molten state by weight about 0.10-1.0% vanadium or about 0.10-0.65% titanium; casting and forming said steel; quenching said steel from an austenitizing temperature to form a microstructure having a major phase of lath martensite enveloped by a minor phase of retained austenite.

12. (original) The method recited in claim 11 further comprising the step of adding in said molten state by weight about 0.10-1.0% vanadium.

13. (original) The method recited in claim 11 further comprising the step of adding in said molten state by weight about 0.10 - 0.65% titanium.

14. (original) The method recited in claim 11, wherein said medium carbon Fe/Cr/C/Mn alloy steel comprises by weight about 0.8 to 3.5% Cr and about 0.65 to 1.2% Mn.